US 29 Mobility Reliability Study
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US 29 Bus Rapid Transit (BRT) County and State Studies

1. US 29 Busway Feasibility Study – MCDOT, January 1996

The study proposes a 3.4-mile busway along US 29 from Sligo Creek Parkway to north of Stewart Lane. Recommended roadway improvements include the elimination of 30 left turns along the corridor, mountable curbs for busway and emergency vehicle use, dedicated reversible lane in center of the road with medians on either side. Expansion and closure of the median at Lorain Ave, Timberwood Avenue, and Lanark Way is also recommended, as is a contraflow dedicated lane in the Four Corners section. Signal phasing improvements are also recommended throughout the corridor, as well as two new signals at Hastings Drive and Crestmoor Drive.

Recommendations for non-motorized improvements include crosswalks, pedestrian-actuated signal heads, and median refuge areas at strategic locations throughout the corridor, and sidewalks for pedestrians and bicycles on both sides of US 29 for the length of the busway.

2. US 29 Bus Operations Analysis – MDOT SHA, October 2001

The study addresses vehicular and bus travel times and delays along US 29 between the Burtonsville Crossing Shopping Center and Silver Spring Metro Station, and predicts operations under year 2007 traffic conditions, when grade separations at the intersections of US 29 and MD 198, Briggs Chaney Road and Randolph Road were to be built and operational. The study concludes that 2007 bus operations are not expected to deteriorate, and rather expected to improve over the 2001 signalized intersection conditions in light of proposed grade separations.

3. Existing Conditions: Signal Systems and Operations on Corridors Rapid Transit System Transit Signal Priority Technical Memorandum 2 & RTS Transit Signal Priority Findings and Recommendations Technical Memorandum 3 – MCDOT, 2013 and 2014

The primary goal of the study is to define the appropriate metrics for the implementation of TSP systems on each RTS corridor, building on what was developed for TSP for local bus operations. Technical Memorandum 2 describes the existing conditions of signal systems and traffic/transit operations on the proposed RTS corridors within Montgomery County. Recommendations for the US 29 corridor include a mix of two-lane median busways, mixed traffic operations, dedicated curb lanes in the peak hour direction and curb lanes via lane-repurposing.

Technical Memorandum 3 summarizes the current status of TSP and RTS within Montgomery County, develops a preliminary concept of operations for key RTS operational scenarios, and estimates costs for TSP components. Recommendations include testing for advanced TSP strategies and technologies (phase rotation, phase omission, phase insertion, predictive priority, adaptive signals, etc.), developing policies for synergistic priority strategies and developing a services hierarchy.

4. US 29 Transit Reliability and Travel Time – MCDOT, March 2015

The memorandum documents the US 29 corridor travel time and on time performance (OTP) analysis carried out using Automatic Vehicle Location (AVL)/Automatic Passenger Counter (APC) data provided by WMATA and Ride On for a period from October 3 to October 7, 2016. It was determined that BRT would provide an end to end travel time savings of around 26% from Burtonsville to Silver Spring, but this savings varies between specific Origin/Destination pairs depending on the directness of the current service, location, and other factors. A savings as high as 60% could occur between Burtonsville and White Oak, and a savings of only 0% to 2% from Four Corners to the Silver Spring Transit Center. BRT may also improve reliability over current bus service.

5. US 29 Bus Rapid Transit Corridor Planning Study Preliminary Purpose and Need Document – MCDOT, December 2015

This document identifies existing and future transportation needs in the US 29 corridor study that BRT would address, and provides an initial foundation for a NEPA Purpose and Need statement in the event the project moves into a future development phase. Based on the problems and issues identified, four specific needs for the US 29 corridor and study area are discussed: transit demand and attractiveness, mobility, system connectivity, and livability. The preliminary purpose statement includes five goals to guide development of BRT alternatives: to improve the quality of transit service, to improve mobility opportunities and choices, to develop transit services that enhance quality of life, and to develop transit services that support master planned development.

6. US 29 Managed Lane Feasibility Analysis – Sabra Wang, January 2016

The analysis assesses the feasibility of converting vehicle travel lanes along US 29 to a managed lane to serve the proposed BRT system, HOV-compliant vehicles, and right turns based on resulting traffic impacts. The study concludes that redistributing traffic volumes based on the managed lane scenario would result in uneven lane utilization which causes some lanes within each segment to perform at or above capacity even after considering potential shifts from SOV to HOV. Therefore, a managed lane is only recommended in the southern (Silver Spring to Sligo) and northern (MD 193 to MD 650) segments of the corridor.

7. TIGER Grant Application – MCDOT , April 2016

The TIGER Grant Application seeks to secure funds for a 14-mile BRT service along US 29 from Burtonsville Park and Ride to Silver Spring Transit Center. The BRT line would use the existing roadway pavement where possible, and would include managed lanes, Bus on Shoulder, and a small segment of mixed traffic.

8. US 29 Bus Rapid Transit Corridor Planning Study - Corridor Study Report – MCDOT, MDOT MTA, MDOT SHA, April 2017

The report documents the evaluation of alternatives to provide new BRT service along US 29. Alternatives evaluated include the No -Build and the three conceptual alternatives identified in the US

29 Bus Rapid Transit Corridor Planning Study - Preliminary Conceptual Alternatives & Traffic Operations Analysis Results. Among other items, it compares the alternatives in light of ridership, accessibility to jobs and activity centers, Level of Service during peak hours, and construction costs. It also documents potential impacts to properties, historic resources, natural resources, and minority and low-income populations. It is anticipated that these communities will benefit directly from the new transit service provided.

9. US 29 Bus Rapid Transit Corridor Planning Study/Preliminary Conceptual Alternatives & Traffic Operations Analysis Results – MCDOT, MDOT MTA, MDOT SHA, April 2017

The report documents traffic modeling assumptions and analysis results performed in support of the US 29 BRT Corridor Planning Study, which evaluates alternatives to provide new BRT services along US 29. The traffic operations analysis portion of this study includes the traffic modeling and analysis findings for the 2040 No-Build, Alternative A: Peak Direction Curbside BAT Lanes (South)/Dedicated Median Shoulder BRT Lanes (North); Alternative B: Curbside Managed Lanes (South)/Bus-on-Outside-Shoulder (North), and Alternative B Modified: Curbside Managed Lanes (South)/Dedicated Median Shoulder BRT Lanes (North).

The study concludes that Alternative B Modified provides the highest level of transit service (i.e., fastest and moves the most amount of people) but significantly degrades Single Occupancy Vehicle (SOV) service. Alternative B seems to be relatively mid-range for improvement to level of transit service without as much of an impact on SOV service. Recommended refinements for future study include signal timing and TSP enhancements, alternative BRT alignments, modification to the lane repurposing segments, geometric improvements to increase capacity at constrained locations, enhanced Transportation Demand Management to reduce SOV demand, and improvements to traffic flow through the BRT transition areas.

10. US 29 Bus Rapid Transit Montgomery County Council T&E Committee Worksession – MCDOT, May 2017

Topics discussed during the worksession included BRT funding, ideas for a public involvement plan, and MetroExtra vs. BRT. It was discussed that funds are programmed to meet the $10M TIGER grant requirements. Public involvement activities discussed include: establishing corridor advisory committees; public open houses and virtual open houses; community meetings and outreach to schools, civic groups, large residential communities, religious institutions, etc.; employee/employer focus groups; written communications such as newsletters and social media; pop-up events, community events, and festivals; and advertising at bus shelters and parking garages. MCDOT expressed opposition to short-term MetroExtra implementation over BRT and supports development of operational and infrastructure ideas to improve performance of the US 29 corridor.

US 29 Related BRT Studies

11. Better BRT, 2018

This citizen group calls for implementing a fast, safe, and reliable BRT system on Route 29. Better BRT envisions extending dedicated bus lanes from Burtonsville to Sligo Creek Parkway so that buses don't sit in heavy traffic during rush hour. Better BRT would provide an alternative to driving while also minimizing impacts to drivers and adjacent property owners. Unlike previous designs proposed by the county and state, Better BRT would create dedicated lanes with minimal road widening while also retaining six lanes for cars through the Route 29 corridor. Better BRT would also enhance safety along the corridor for drivers, bus riders, and pedestrians by eliminating some left turns along US 29, and adding crosswalks and new traffic signals at key intersections.

12. US 29 BRT Dedicated Lanes Draft Concept – Emerson/Smoot, 2016

As part of the Better BRT plan, this concept proposes upgrades to the current BRT plan along most of US 29 corridor. Improvements include reducing travel lanes by one foot in areas with turn lanes, two dedicated lanes next to the median where feasible, and reversible lanes where constrained south of Granville Drive and south of Sligo Creek Parkway.

US 29 Related Traffic and Transit Studies

13. US 29 Before/After Study From MD 198 to MD 193 – MDOT SHA, 2006

The study evaluates weekday peak period traffic operations and overall transportation system impacts in lieu of highway improvements on US 29 between Sandy Spring Road and University Boulevard. Year 2000 is the before condition and Year 2006 is the after condition. The study conducts a total build-out analysis of US 29 with proposed interchanges at Greencastle Road, Fairland/Musgrove Road, Tech Road, and Stewart Lane. It also develops year 2015 traffic forecasts for US 29 and conceptual lane arrangements from the preferred alternatives at Briggs Chaney Road intersection (completed 2008).

14. Pedestrian Roadway Safety Audit University Boulevard (MD 193) and Colesville Road (US 29) – MCDOT, July 2011

This document summarizes the results of a pedestrian road safety audit for the intersection of US 29 and MD 193 in Silver Spring, MD (Four Corners). The document identifies a variety of issues related to pedestrian and bicycle safety and develops general suggestions to improve pedestrian and bicycle safety in the study area including signage and signal improvements, deterrents to mid-block crossings, and coordination with transit services to improve bus stop waiting areas.

15. US 29/Cherry Hill Transit Oriented Development Scenario Planning Report - M-NCPPC , June 2011

The report examines the results of a Transit-Oriented Development (TOD) scenario planning exercise in a study area primarily located in the Cherry Hill Employment Area, east of US 29 south of Cherry Hill Road. The planning exercise includes three main components: 1) a literature review examining TOD best practices, particularly in relation to the large USFDA Federal Research Center campus; 2) a transit sketch-planning analysis; and 3) a land-use scenario testing analysis. The report concludes that the study area is a good candidate for increased bus service and potentially light rail transit (LRT) or BRT in the future with some higher-density development around station areas.

16. US 29 Fairland/Musgrove Interchange Study – MDOT SHA, 2014

MDOT SHA evaluated the geometric, environmental, cost and traffic operations of a new interchange. Recommendations include grade separation at the intersections of US 29 at Fairland Road and Musgrove Road and construction of a service road starting at Musgrove Road and merging with US 29 prior to Tech Road.

17. US 29 Bus Rapid Transit Regional Traffic Impact – UMD, 2016

The study team uses advanced traffic modeling applications with predictive routing capabilities to evaluate the potential impacts of traffic diversions post-BRT implementation due to potential increased traffic congestion along US 29. The study concludes that during the PM Peak period, implementation of BRT results in an average speed change from 36 to 35 miles per hour, average vehicle miles traveled from 7.2 to 7.4, and average travel time per trip change from 13.3 minutes to 13.5 minutes over 2015 No-Build conditions.

18. US 29 Existing Conditions Report – MCDOT, August 2017

The report reviews and summarizes recent studies and plans for Ride On and Metrobus service on, to and near the US 29 corridor. It examines the Ride On and Metrobus routes that intersect and operate on the US 29 corridor. The report will be used to inform design of a feeder bus network that will comprehensively and efficiently serve the communities surrounding the corridor.

The study also identifies service gaps and recommends all-day service for the White Oak Shopping Center along Stewart Lane and Lockwood Drive, Calverton and Downtown Silver Spring. It also recommends additional peak hour service for Downtown Silver Spring and Forest Glen.

19. US 29 Reversible Lane Removal Study – MDOT SHA District 3

This study reviews the traffic and safety effects of removing the reversible lane along US 29. Due to funding issues, it is currently on hold and has not been completed.

Countywide and Regional Transit Studies

20. Countywide Bus Rapid Transit Study Consultant's Report – MCDOT, July 2011

This study analyzes the feasibility of a BRT network in Montgomery County via an initial screening to identify eligible county roads and potential design options within the right-of-way, and to determine travel demand along identified corridors as well as capital and operating costs for the network. A 13.5-mile potential route is identified along US 29 from Burtonsville Park-and-Ride at its northern terminus and the future Silver Spring Transit Center at its southern terminus, and includes 11 station locations along the route. The plan uses density thresholds as a method to identify where BRT may be appropriate, and makes general land use recommendations key to the success of BRT, including Transit-Oriented Development.

21. Demand and Service Planning Report for the Proposed Montgomery County Maryland BRT System – MCDOT, 2012

Of the 160 miles of BRT infrastructure on surface roads previously identified, this study recommends a phased approach to realistically building and operating a full BRT network in Montgomery County. The study estimates present passenger demands on the bus system based on operational data to evaluate potential initial ridership of the first three selected BRT corridors.

22. Montgomery County Rapid Transit System Service Planning and Integration Report – MCDOT, May 2014

The report builds upon the body of knowledge that has been developed for a BRT network in Montgomery County and provides guidance for further Rapid Transit System (RTS) planning among the key BRT corridors: Randolph Road, MD 355, Georgia Avenue, Veirs Mill Road, New Hampshire Avenue, and US 29. The study also examines integration of planned BRT and local bus service, as well as a summary of regional land use plans. The concept for US 29 focuses on connecting activity centers, multimodal transit nodes, as well as providing transportation opportunities from Burtonsville to Silver Spring. Local service modifications include use of the US 29 BRT infrastructure, where accessible, by Metrobus Z routes, MTA Commuter buses, and Ride On. Metrobus Route Z8 would continue with half the headways of service.

23. County Executive's Transit Task Force Final Report and Recommendations – Montgomery County, October 2015

The Transit Task Force reconvened in April 2015 to study legislation proposed in the 2015 Session of the Maryland General Assembly, develop procedures for soliciting community and business input, provide advice on the proposed legislation, and identify potential funding sources relating to the RTS network as part of an overall financial plan. The Task Force proposes an additional half cent sales tax to fund transit, and supports legislation to empower the County to develop its transit authority. Recommendations in the report include: establishing special tax districts; introducing a new excise tax on commercial property rentals to finance the transit system; creating a dedicated fund for transit; requiring the transit authority to submit annual and long-term budgets and financial audits; requiring council approval for eminent domain and ensuring the transit authority adheres to county ethics; and allowing the transit authority to enter into multi-jurisdiction agreements.

24. Z Line Study – WMATA, January 2015

WMATA, with input from Montgomery County, completed a study for seven Metrobus routes that provide connections along the US 29 corridor: Z2 Colesville-Ashton Line, Z6 Calverton-Westfarm Line, Z8 Fairland Line, Z9/Z29 Laurel-Burtonsville Express Line and Z11/Z13 Greencastle-Briggs Chaney Express Line. Developed through public outreach and technical analysis, a summary of plan recommendations follows.

Z Line service improvements are proposed for short-term (1-2 years) implementation, and include adding trips to Z8 weekday mid-day service, adding trips to Z8 Saturday service, adding an additional Z6 weekday evening trip, and adjusting schedules to reflect observed run times. Mid-term (3-4 years) recommendations include implementing Z6 Saturday service and modifying Z8 frequency, and implementing new peak MetroExtra service. Long-term (5-6 years) recommendations include expanding some Z Line mid-day and Saturday service areas.

Operational improvements include implementing dedicated supervision to proactively manage bus departures and adding additional stops on Z Lines Express Services (Z9, Z11, Z13, and Z29). Proposed passenger facility improvements include a number of ADA compliance and pedestrian safety improvements; the addition of amenities such as shelters, benches and trash receptacles; signal timing and phasing; stop locations; and addressing general congestion along US 29.

25. Howard County Bus Rapid Transit Phase II Study Technical Report – Howard County, April 2016

This report documents Howard County BRT Phase II Study efforts, analysis, and results. The study focuses on US 29, Broken Land Parkway and US 1. The study examines specific route alignment and stations, ancillary feeder transit services, landside services such as park and ride and pedestrian accessibility, preliminary operating costs, and land use plans to support high quality transit service within and between the study corridors.

Based upon the recommended BRT system for US 29 and related local/feeder bus service, the study documents a significant travel market and demand for high quality BRT to and from Howard County for each of the three corridors. Among other items, recommended next steps include coordination with Montgomery County on US 29 corridor planning and preliminary engineering.

Related Regional Studies

26. MD 193 Road Diet Study – MDOT SHA, March 2016

MDOT SHA performed a roadway study along the MD 193 (University Boulevard) corridor from US 29 (Columbia Pike) to MD 320 (Piney Branch Road) per request by area elected officials and residents. The purpose of the study was to determine if a reduction of the road capacity from 6 lanes to 4 lanes is feasible. The study concluded that if a road diet is implemented, peak hour volume increases 2.5% and 6.5% north and south of I-495, respectively.

27. Maryland State Highway Mobility Report – MDOT SHA, 2016

The report documents the annual measurements of congestion along Maryland state highways including travel time reliability. US 29 from MD 650 to I-495 was ranked as one of the top 10 congested arterial segments in the State.

28. Mobility Assessment Report – M-NCPPC, February 2017

The report summarizes the trends, data, and analysis used to track and measure transportation mobility conditions in Montgomery County to provide information to residents and public officials regarding the

current state of the county's transportation system, as well as how the system is changing and evolving. Although there are no specific recommendations, the report documents recent ridership and travel trends.

Approximately 40 percent of residents from Silver Spring, Friendship Heights and Grosvenor commute via public transportation. Ride On routes on US 29 saw an increase of 10 percent or more ridership from 2013 to 2015. MetroBus routes Z9/Z29 saw a 6.1 percent increase in ridership, while Metro Bus routes Z11 and Z13 on US 29 saw a weekday average decrease in ridership of -26.4 percent.

Forty percent of roadway mileage inside the Beltway experiences moderate to heavy or higher levels of congestion compared to approximately 13 percent outside beltway. Columbia Pike experiences two peak periods between University Blvd and Sandy Spring Rd in the southbound AM peak south of Randolph/ Cherry Hill Road and in the northbound PM peak between New Hampshire Avenue and Randolph/ Cherry Hill Road. Columbia Pike from Sandy Spring Rd to Howard County border has a sharp peak in congestion during the evening commute from 4 to 5 PM northbound and generally on Thursdays and Fridays. Colesville Road from I-495 to DC border is 87 percent congested throughout the evening commute in the southbound direction. In the northbound direction, both morning and evening commutes reach similar congestion levels.

The county has invested in many capital construction projects, regulatory changes, planning methods and data that seek to encourage a diverse transportation system. These include Bicycle Pedestrian Priority Areas (BiPPA), and currently five locations are being evaluated for BiPPA in Montgomery County. The Planning Department is preparing the Bicycle Master Plan and several capital improvement projects supporting bicycle and pedestrian travel. In the top twenty intersections with the highest pedestrian use, Colesville Road at Georgia Avenue and Fenton Street are #5 and #14, respectively. In the top twenty intersections that bicycle activities were observed, Colesville Road at Georgia Avenue was #13 with 54 bicyclists. However, there is very little activity along US 29 outside of the Silver Spring CBD.

Functional and Master Planning Documents

29. Montgomery County Master & Sector Plans (Fairland, Four Corners, North and West Silver Spring, Silver Spring Streetscape and White Oak,) – M-NCPPC, Various Dates

Fairland Master Plan, 1997
The plan reinforces existing development patterns with adjustments from the 1993 General Plan. Specific to transportation, the plan recommends enhancing mobility by providing safe and efficient transportation systems with a wide range of alternatives.

The plan does not make specific transit recommendations, however it does recommend grade-separated interchanges for all east-west crossings of US 29, and recommends reserving the ROW for all future transit improvements. It endorses sidewalks and walkways to improve pedestrian access to public transit, commercial centers, schools, parks and places of employment. The plan also supports safe and convenient bikeway network that connects to local community centers, services and recreational facilities and expands commuting opportunities for biking.

Four Corners Master Plan, 1996
The plan balances transportation needs of regional through traffic and local traffic by recommending road improvements at main intersections and enhanced system for cyclists and pedestrians to create a more conducive multi-modal environment.

The plan encourages increased use of transit with bus service that connects Four Corners with Silver Spring and Forest Glen Metro Stations. It also recommends intersection improvements for Colesville Road and University Boulevard, including pedestrian and streetscape amenities. It promotes use of transit ridesharing and other traffic mitigation measures, including compressed workweeks and telecommuting among employees and residents in and near the US 29 corridor. It suggests pedestrian circulation and safety should be improved by constructing sidewalks that connect neighborhoods to the commercial district, schools, transit stops, parks and other community facilities. It states that the existing bikeway network should also be expanded to support local and regional systems and enhance value as an alternate means of transportation.

North and West Silver Spring Master Plan, 2000
The plan seeks to enhance stable residential neighborhoods, upgrade local commercial centers and generally improve connectivity. The plan's recommendations are designed to enhance and sustain area neighborhoods with upgraded infrastructure and a neighborhood friendly transportation system.

The plan generally calls for improved transit on US 29, and for the investigation of the feasibility of a transit center in White Oak Shopping Center. The plan suggests adding a separate right-turn lane on westbound Dale Drive at Colesville Road, which would require pavement widening, and it also calls for pedestrian circulation along Colesville Road including wide, tree-lined sidewalks on both sides of the street and safe pedestrian crossings.

Silver Spring Streetscape Plan, 1992
This plan describes an overall concept for the Silver Spring Central Business District steetscape system including street trees, lighting, paving, layout concepts and materials.

White Oak Master Plan, 1997
In addition to recommendations for residential communities and commercial centers, the plan recommends safe and attractive transportation improvements that enhance local circulation and convenience for all modes of travel within and through the communities of the White Oak Master Plan area. The plan proposes two transit centers, one in Colesville and another in White Oak. It proposes grade separated intersections along US 29. The plan also proposes a system of walkways and bikeways, and sidewalk improvements to enhance pedestrian and bicycle experience and improve community character.

30. Purple Line Functional Plan – M-NCPPC, September 2010

The plan identifies the Purple Line alignment and station locations throughout Montgomery County. No specific roadway or automobile improvements are recommended for US 29, however two stations on or

near the US 29 corridor include the Fenton Street Station with platforms located adjacent to the Silver Spring Library, and the Silver Spring Transit Center Station, which is also a stop on the US 29 BRT. The Silver Spring Transit Center Station also includes enhanced access from the Purple Line to Metrorail Red Line, local buses, MARC, inter-city bus and taxi service at Transit Center.

31. Burtonsville Crossroads Neighborhood Plan– M-NCPPC, December 2012

The plan is an amendment to the 1997 Fairland Master Plan and other regional plans which include the Burtonsville crossroads area. The Burtonsville Park and Ride is presented as an opportunity to link local businesses to the larger region, including access to US 29 and the planned Montgomery County BRT network (the Park and Ride is the planned northern terminus of the US 29 BRT route). The Park and Ride lot, located behind the Burtonsville Crossing Shopping Center, includes 500 spaces with access from US 29, Business 29 (Old Columbia Pike), and MD 198. It is served by MTA Commuter Bus, University of Maryland Shuttle, and ICC Bus to and from Baltimore-Washington International Airport, and Metrobus, including routes to Silver Spring, Amtrak and Metrorail stations. The plan calls for a shift from single-use to mixed-used zoning in the area around the Park and Ride, which would provide a mix of commercial and housing opportunities, support infill, and require privately owned public use space to be accessible to the public. It also recommends improving the grid pattern of local streets, adding streetscape to Business 29, and improving the bikeway along US 29.

32. Countywide Transit Corridors Functional Plan – M-NCPPC, December 2013

The plan recommends implementing a 102-mile Bus Rapid Transit (BRT) network and expanding right-of-way for CSX Metropolitan Branch to allow for enhanced MARC commuter rail service. The plan calls for dedicated bus lanes from Stewart Lane to Sligo Creek Parkway and from Georgia Avenue to Sixteenth Street, two additional dedicated lanes from MD 198 to Stewart Lane, and a dedicated lane in the peak-hour peak direction from Sligo Creek Parkway to Georgia Avenue. Station locations are identified at 11 locations throughout the corridor including the Burtonsville and Briggs Chaney park and rides, and White Oak and Silver Spring transit centers.

Roadway and traffic signal improvements are not specifically recommended in the plan. However, accommodation for pedestrians and bicyclists is recommended, particularly at transit-oriented development areas, established or developing activity centers, around Metro stations, and at transfer points between BRT routes.

33. White Oak Science Gateway Master Plan and Local Area Transportation Review (LATR) Intersection Improvement Cost Evaluation Study - M-NCPPC, 2014

The master plan is an amendment to several Master Plans in Montgomery County covering approximately 3,000 acres and makes recommendations for land use, density, zoning, transportation, environment, historic resources, parks and community facilities. The plan envisions White Oak's major centers – Hillandale, White Oak, and Life Sciences/FDA Village evolving from conventional, auto-dependent suburban shopping centers, business parks, and light industrial areas into vibrant, mixed-use, transit-served nodes.

The purpose of the LATR Study is to address potential LATR-scale costs for inclusion in a proposed per-trip fee that may be paid by new development in lieu of performing a complete LATR analysis and independently mitigating individual development's traffic impacts. The study concludes that for all study intersections on US 29, with the exception of Randolph Road/Cherry Hill Road, a proposed per-trip fee may be established by County Council and paid by new development in lieu of conducting a complete LATR analysis and independently mitigating individual development's traffic impacts.

34. Silver Spring CBD Bicycle and Pedestrian Priority Area – M-NCPPC, June 2015

This document proposes a Bicycle and Pedestrian Priority Area (BiPPA) for the Silver Spring Central Business District. The objective of the BiPPA is to enhance safe bicycle and pedestrian access to support cohesive neighborhoods, aging infrastructure, and improve long-range connectivity and circulation.

35. Federal Research Center Master Plan Draft Environmental Impact Statement – GSA-USFDA, February 2018

This document evaluates a new Master Plan for the 130-acre Federal Research Center to accommodate a projected employee population of 18,000. The proposed action includes: development up to an additional 1,191, 309 gsf of office space and 557,525 gsf of special/shared use space to support FDA's mission for a total of up to 8,977,671 gsf; 11,709 parking spaces for FDA employees and support staff; 1,615 visitor parking spaces; and reconfiguration of the East Loop Road. The document evaluates installation of traffic adaptive/demand responsive signal systems on US 29, MD 650, and Cherry Hill Rd, changing the AM and PM peak periods cycle length to 150 seconds, and proposes grade separated interchanges at US 29 and Stewart Lane, Tech Road, and Musgrove Road. The EIS also calls for a transit hub near the Federal Research Center, and coordination with Montgomery County and SHA to enhance pedestrian and bicycle connections to and networks.

36. Countywide Bike Master Plan – MCDOT, May 2018

The Bicycle Master Plan sets forth a vision for Montgomery County as a world-class bicycling community, where people in all areas of the county have access to a comfortable, safe, and connected bicycle network, and where bicycling is a viable transportation option that improves the quality of life.

A number of new bikeways are recommended in the study area including a separated bikeway from Northwest Branch to Lorain Ave and from University Blvd to the I-495 bridge on the east side of US 29 as part of the Burtonsville to Silver Spring Breezeway. A separated bikeway is also recommended from Sandy Spring Road (MD 198) to Blackburn Road on the east side and from Tech Road to Rachel Carson Greenway on the west side of US 29.